If external contamination by metallic mercury occurs or is suspected, the following test may be used to determine whether contamination by metallic mercury exists or whether corrective cleaning measures have been effective. Enclose the equipment in a polyethylene bag or close-fitting airtight container for eight hours at room temperature (76 degrees F +/- 10 degrees F). Sample the trapped air and if mercury vapor concentration is 0.01 mg/cu meter or more, the material is mercury contaminated insofar as the requirements of this contract are concerned.

These requirements shall be included in any subcontract or purchase order hereunder and the Contractor shall insure SubContractor compliance with these requirements.

Technical questions pertaining to these requirements shall be referred to the Procurement Contracting Officer via the cognizant Administrative Contracting Officer. For background, the following information is provided:

Mercury is corrosive to gold, silver, nickel, stainless steels, aluminum and copper alloys. Stainless steels, nickel, and copper alloys are widely used in reactor plants and other submarine/surface ship systems. Accidental trapping of mercury in a component could cause serious damage to vital parts. Mercury is also toxic if inhaled, ingested, or absorbed through the skin. It is evident that grave consequences could result from small amounts of mercury vapor present in an unreplenished submarine/surface ship atmosphere.

3.9 First Article Approval (Contractor Testing) - First Article Test (FAT) and approval is required.

4. QUALITY ASSURANCE

4.1 Responsibility for Inspection - Unless otherwise specified in the contract/purchause order, the Contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract/purchase order, the Contractor may use his own or any other facilities suitable for the performance of the inspection reqiurements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed reqiurements.

4.2 Responsibility for Compliance - All items must meet all requirements of this contract/purchase order. The inspection set forth in this specification shall become a part of the Contractor's overall inspection system or quality program. The absence of any inspection requirements shall not relieve the Contractor of the responsibility of assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract/purchase order. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.3 Records of Inspection - (This requirement is not applicable to Government Purchase Orders) Records of all inspection work performed by the Contractor, as referenced elsewnere in this contract, shall be kept complete and available to the Government during the performance of the contract and for a period of four years after final delivery of supplies.

4.4 First Article Test/Inspection (Contractor) - The Contractor shall conduct <Non-Destructive> First Article Test/Inspection on <five (5)> unit(s) in accordance with requirements <of this contract/purchase order> .

4.4.1 <The five binoculars shall be subjected to the following inspections:

Mechanical/Visual Inspection shall be done in order to verify conformance with the General Characteristics, Optical Characteristics, and Operability requirements of this contract/purchase order.

Environmental Resistance Tests shall be done in the order as follows:

The binoculars shall be dropped, randomly oriented, from a height of six feet into a pile of fine sand, six inches deep, which is covered with a thin cloth. A strong cord, practically free from stretch, shall be tied about the hinge. The binocular shall be dropped without striking anything for six feet with the cord arresting the fall.

The binoculars shall be vibrated in a vertical plane at a constant frequency of 30 cycles per second with an amplitude of 1/16 inch (1/8 inch total excursion) for a period of 10 minutes +/- 15 seconds.

The binoculars shall be exposed to thermal stabilization at temperatures of -20 degrees and +70 degrees C for one hour.

The binoculars shall be purged with dry nitrogen, and shall remain watertight while withstanding immersion in one foot of water for a period of five minutes. Binoculars shall then be removed from the water and stored at ambient temperature for a continuous period of seven (7) days, then visually examined and no moisture, fogging, or foreign matter shall be observed. >

4.5 First Article Test/Inspection Report - The Contractor shall prepare and submit a report in accordance with the Contract Data Requirements List (DD Form 1423). The report shall be approved prior to production.

5. PACKAGING

5.1 Preservation, Packaging, Packing and Marking - Preservation, Packaging, Packing and Marking shall be in accordance with the Contract/Purchase Order Schedule and as specified below.

MIL-STD 2073 PACKAGING APPLIES AS FOUND ELSEWHERE IN THE SCHEDULE

6. NOTES

L. Paragraph 5.3.6 with the exception of paragraph 5.3.6.5 and 5.3.6.7.1 are required.
M. Paragraph 5.3.6.6 and 5.3.6.6.2 are required.
N. Paragraph 5.3.6.6.1 is not required unless specifically cited elsewhere in Section "C" of this contract/purchase order.
O. The marking requirement is stated elsewhere in Section "C" of this contract/purchase order.
P. Interface requirements are as specified on the drawings provided with this contract/purchase order or the primary equipment performance MIL-SPEC or STD cited in Section "C" of this contract/purchase order.
Q. NA to this contract/purchase order.
R. All Class I changes to either a Government owned Configuration Identification (CI) or baseline configuration shall be submitted to the Procurement Contracting Officer for review and subsequent approval - conditional approval or disapproval. NDI, COTS, and PDI items previously accepted by the Government shall be submitted as above. This process does not excuse the contractor from initially offering to the Government an item which meets the minimum technical and operational requirements set forth in this contract/ purchase order.
S. Preliminary Change Notices and Advance Change Study Notices are not required.
T. NA to this contract/purchase order.
U. and V. Class II Engineering Change Proposal (ECP) may be carried through provided the Government QAR reviews and concurs with the classification review which resulted in the ECP being classified as Class II.
W. Paragraph 5.4.3 is required.
X. Paragraph 5.4.4 is required.
Y. NORS are not required for this contract/purchase order.
Z. Short Form procedures are allowed.
AA. Paragraph 5.5.2 is not required for this contract/purchase order.
AB. Paragraph 5.5.7 is not required for this contract/purchase order.
AC. Paragraph 5.5.8 is not required for this contract/purchase order.
AD. Paragraph 5.6.2 is not required for this contract/purchase order.
AE. Paragarph 5.6.3 is not required for this contract/purchase order.
AF. Paragraph 5.4.2.2.3.2b is not required for this contract/purchase order.

3.7.1 Configuration Control - When the Contractor has received authorization on a prior contract for the same NSN for the use of a drawing of a later revision status, that authorization is hereby extended to all succeeding contracts/purchase orders until another drawing revision is approved. The Contractor will notify the PCO of this occurrence in each instance, in the response to the solicitation. Such notification shall be in writing setting forth the contract under which the prior authorization was granted, the date of the granting of the authorization, and the name of the granting authority.

Contractors shall also refer technical inquiries (other than those covered by MIL-STD-973) on company letterhead signed by a responsible company official, with copies distributed as stated below.

The original and two copies of all Contractor generated correspondence regarding configuration shall be submitted to Contracting Officer, Navy Ships Parts Control Center, P. O. Box 2020, Mechanicsburg, PA 17055-0788.

Contractors are cautioned that implementing engineering changes, waivers, deviations or technical inquiries into the contract/purchase order without approval of the Contracting Officer will be at the sole risk of the Contractor.

3.8 Mercury Free - The material supplied under this contract/purchase order is intended for use on submarines/surface ships and therefore shall contain no metallic mercury and shall be free from mercury contamination. Mercury contamination of the material will be cause for rejection.

If the inclusion of metallic mercury is required as a functional part of the material furnished under this contract, the Contractor shall obtain written approval from the Procurement Contracting Officer before proceeding with manufacture. The contractor's request shall explain in detail the requirements for mercury, identify specifically the parts to contain mercury, and explain the method of protection against mercury escape. Such a request will be forwarded directly to the Procurement Contracting Officer with a copy to the applicable Government Inspector. Upon approval by the Contracting Officer, the vendor will provide a "Warning Plate" stating that metallic mercury is a functional part of the item and will include name and location of that part.

The use of mercury, mercury compounds, or mercury-bearing instruments and/or equipment in a manner which might cause contamination in the manufacture, assembly, or test of material on this contract is prohibited. The most probable causes of contamination are direct-connected manometers, mercury vacuum pumps, mercury seals, or the handling of mercury in the immediate vicinity. Mercury switches, mercury in glass thermometers, standard cells and other items containing mercury may be used if they are located so as not to constitute a contamination hazard.

reinforcement. Reinforcement plastic or nylon is preferred. Leather shall not be acceptable. The strap shall be of a black color.>

3.3 <The Optical Characteristics are as follows:>

3.3.1 <The binoculars shall be of the prismatic design.>

3.3.2 <All glass elements used in the binocular shall be free of Thorium.>

3.3.3 <The optical elements shall be glass and coated, except for cemented surfaces, to reduce reflection at glass to air interfaces. The coating shall be sufficiently durable to withstand normal cleaning procedures. The ocular shall transmit not less than 80% white light incident upon the objective.>

3.3.4 <The binocular collimation shall be within the following range for any interpupillary setting, at zero diopter setting:

Divergence	+/- 2 arc minutes
Dipvergence	+/- 3 arc minutes
Convergence	+/- 8 arc minutes>

3.3.5 <The eye relief or clear eye distance shall be 10 millimeters minimum and 25 millimeters maximum.>

3.3.6 <The resolution shall not be greater than 8.55 seconds of arc. When measured at the center of the field of view, horizontal and vertical lines shall be resolvable within 0.5 diopter.>

3.3.7 <The images of an infinity plumb line formed by the two optical systems shall be parallel to each other within one degree of arc. Neither image shall vary from the vertical by more than one degree of arc.>

3.3.8 <Parallax, when measured at the center of the field, shall not exceed 2 mils.>

3.3.9 <Individual eyepiece focus is required. The individual eyepiece shall be adjustable through a true range of +/- 4 diopters. The individual diopter scales shall be graduated through a minimum range of +/- 3 diopters. Markings shall be provided every diopter. Minimum markings shall be accurate within +/- 0.25 diopter. >

3.3.11 <Binoculars must have an interpupillary distance scale which has a minimum range of 60 to 70 millimeters. Graduations shall be provided at the manufacturer's discretion but shall be suitable for the intended purpose. Marked settings shall be accurate within +/- 1 millimeter of true position.>

3.4 <The Operability of the binocular is as follows:>

3.4.1 <The eyepiece diopter scale shall operate freely within the range of temperature from -20 degrees to +70 degrees Centigrade.>

3.4.2 <The interpupillary distance hinge shall be fitted and adjusted with sufficient tightness and the hinge lubricant shall be of such a consistency that the following range of running torque values are obtained:

15 to 33 degrees C	15 to 22 inch - pound
-20 degrees C	43 inch - pound MAX
+70 degrees C	43 inch - pound MAX

The binoculars shall otherwise maintain any interpupillary setting over the entire temperature range.>

3.5 <The binocular shall be capable of withstanding the environments without physical damage or degradation of the optical performance.>

3.6 Marking - This item shall be physically identified in accordance with <this contract/purchase order and MIL-STD-130> .

3.7 Configuration Control in accordance with MIL-STD-973 Short Form procedures - The requirements of MIL-STD-973 are hereby invoked in the contract/purchase order. The tailoring notes stated in the order cited in paragraph 3.2.1.3 are stated below:

A. Considered, tailoring implemented
B. Automated processing and submittal is not required.
   Interactive access to digital data is not required.
C. Configuration audits are not required.
D. Contractor's configuration management plan is not required.
E. Configuration terminology development documentation is required.
F. Only paragraphs 5.3.3.2, 5.3.6.4, 5.3.6.7, 5.3.6.7.3 are required.
G. FCD is not required.
H. ACD and PCD is not required.
I. Not Applicable (NA) to this contract/purchase order.
J. NA to this contract/purchase order.
K. NA to this contract/purchase order.

1. SCOPE

1.1 This contract/purchase order contains the requirements for manufacture and the contract quality requirements for the BINOCULAR .

1.1.1 Full Item Name for BINOCULAR Referenced in this contract/purchase order is <Handheld 7X50 Binocular> .

2. APPLICABLE DOCUMENTS

2.1 Applicable Documents - The document(s) listed below form a part of this contract/purchase order including modifications or exclusions.

2.1.1 "Document References" listed below must be obtained by the Contractor. Ordering information is included as an attachment to this contract/purchase order.

2.2 Order of Precedence - In the event of a conflict between the text of this contract/purchase order and the references and/or drawings cited herein, the text of this contract/purchase order shall take precedence. Nothing in this contract/purchase order, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

2.3

DOCUMENT REFERENCES

SPEC NO.	SLASH NO.	PART NO	REV	DATE	DISTR CD	AMEND	CHG NTC	SUPP
DI-NDTI-80809			A	25 MAR 91	A			
MIL-STD-130			H	01 DEC 93	A			
MIL-STD-973				01 DEC 92	A		01	

3. REQUIREMENTS

3.1 Manufacturing and Design - The BINOCULAR furnished under this contract/purchase order shall meet the material and physical requirements as specified <within this contract/purchase order> .

3.1.1 <This contract/purchase order is a Performance Specification for a Handheld 7 X 50 Binocular (Non-Reticle).>

3.2 <The General Characteristics for the Binocular are as follows:>

3.2.1 <The Magnification and Objective diameter (mm) are 7 -/- 2% X 50 +/- 2%.>

3.2.2 <The minimum field of view at 1000 yards is 380 feet.>

3.2.3 <The maximum weight with carrying strap and lens caps is 3.5 pounds.>

3.2.4 <The maximum length between outer edges of objective housings at any interpupillary setting is 8.75 inches (features to be measured without lens caps).>

3.2.5 <The maximum height at zero diopter setting is 8.0 inches (features to be measured without lens caps).>

3.2.6 <Each binocular shall be permanently marked with a serial number.>

3.2.7 <The basic body material shall be constructed from a material highly resistant to degradation from sea water.>

3.2.8 <The external gripping surfaces of the binocular bodies shall be of a design to prevent slipping while in the users hand and shall be made of a rubber or rubber-like material. The material shall be of black color and shall not be reflective. The material and design shall also serve to protect the binoculars from minor bumps, shocks, and skidding.>

3.2.9 <The binoculars shall be provided with eye cups which shall be foldable. The binoculars shall also be provided with covers for the objective and eye lenses. These components shall be of a black color. The objective and eye lens covers shall be provided with means of attachment to either the binoculars or binocular carrying strap.>

3.2.11 <The binoculars shall be designed and constructed to provide a clear image, free of glare from non-optical surfaces. The optical parts and entire interior of the binoculars shall be clean and free from dirt, dust, grease, and other foreign matter. There shall be no foreign matter obvious to the unaided eye when looking into the binoculars eyepiece against a background having the brightness of the sky in average daylight which would impair optical performance. The binocular interior shall be free from lubricants and coatings which may bleed, outgas, chip, or flake in normal use.>

3.2.11 <The binoculars shall be equipped with a carrying strap of between .25 and .5 inch width. The strap shall be adjustable between 38 and 44 inches in length. The strap shall be firmly attached to the binocular body and shall be detachable for replacement. The carrying strap shall be of a durable material with high strength/stress